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University of Colorado

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FINAL REPORT FOR GRANT NAG5-1089

Rick Edelson, PI

Although the observations for the proposal NAG 5-1089, entitled "Ultra-violet Spectra of the CfA Seyfert 1 galaxies: A Complete, Optically Selected Sample," have been completed, the research is not yet over. This work is continuing under a new IUE grant, NAG 5-1411, entitled "Two Complete Active Galaxy Samples: The 12 um and CfA Seyfert 1s." These observations will be completed in June, we hope to have results written up in 1991.

These observations will use six US 1 shifts to complete the IUE observations of two complete samples of Seyfert 1/quasars: the 12 um-selected sample of Spinoglio and Malkan (1989) and the CfA Seyfert 1s. 90these samples have already been observed; the proposed observations will complete an archive in which every object in these important samples has simultaneous, long-exposure LW/SWP spectra. These objects also have completed or planned radio, infrared, optical and X-ray coverage.

This well-defined data set will allow application of powerful statistical tests which could not be applied to heterogeneous samples, since they are susceptible to unknown selection effects which can produce spurious results. This will permit several fundamental investigations, including: 1) rigorous statistical analysis of correlations such as the Baldwin effect; 2) critical tests of unified models which invoke evolution or orientation effects to produce the large range of properties observed in active galaxies; 3) model fits to the broadband continuum, to search for trends among active galaxy properties, determine emission mechanisms and construct the bolometric luminosity function; and 4) application of principal component analysis and other techniques to investigate new broadband classification systems. Finally, completing these observations will yield an AGN archive which will be essential for addressing future questions when they arise.

(NASA-CR-193236) ULTRAVIOLET
SPECTRA OF THE CFA SEYFERT 1
GALAXIES: A COMPLETE, OPTICALLY
SELECTED SAMPLE Final Report
(Colorado Univ.) 1 p

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